

Methodology to Estimate Savings Potential From More Efficient Physicians¹

To roughly estimate how more frequent use of efficient physicians might reduce health care spending, national efforts to apply this method were surveyed. This method differs from mainstream managed care methods, which select physicians primarily on their willingness to discount their unit prices and cooperate with utilization management methods.

Three natural experiments were conducted between 1994 and 2001, in widely varying geographies by Pitney Bowes, Union Carbide, and Regence Blue Shield. While each varied in its specific approach and degree of physician selectivity, they shared the characteristic of using software to analyze large health insurance claims databases and develop a health insurance plan network that promoted use of physicians whose practice style was associated with lower total morbidity-adjusted costs of care for which they appeared to be the primarily accountable physician. Physician efficiency in managing the total costs of health care that can be plausibly influenced by his or her services is termed “allocative efficiency.” Attribution of costs to a primarily accountable physician was based on logic that considered the timing, frequency, and content of services that each physician provided. Each approach incorporated outlier thresholds in order to insulate physician efficiency ratings from the effects of very expensive illnesses.

None of the three natural experiments met criteria for scientific publication. Results were poorly documented and several confounding variables were inadequately account for. Accordingly, their results should be regarded as directional rather than definitive. Strikingly, all three approaches were associated with a similar-sized **12-17% reduction** in per capita health care spending in the subsequent 12-24 months when compared to the prior year’s spending plus concurrent regional health insurance trend. These reductions were obtained starting from both weak (i.e., PPO) and strong (gatekeeper POS) states of baseline patient care management.

None of these early experiments attempted to compare the pre-existing physician network with the efficiency-selected network on quality of care measures. However, all three limited their efficiency-selected networks to physicians who had met quality credentialing standards in the pre-existing network. All assured that the efficiency-selected network included at least a proportionate number of physicians with strong reputations for high quality in the judgment of physicians who managed the pre-existing network. In estimation of savings, all three experiments attempted to account for the effects of any year-to-year changes in population risk, plan coverage richness, physician economic incentives, and utilization management programs. However, their methods and results were poorly documented and/or imprecise. Accordingly, the ~15% reduction in per capita health care spending achieved by all three health plan sponsors should be regarded as order-of-magnitude insight into health insurance economies achievable via health care plans that create incentives for consumers to select more efficient physicians. The Pitney Bowes experiment is the only one of the three to have been described in the published literature, and is summarized below.

¹ From “Improving the Value of Health Benefit Plans Through Consumer Driven Health Care,” Mercer Human Resource Consulting, 25 April 2002.

The Pitney Bowes Experiment

The Pitney Bowes Experiment is detailed in an article entitled, “Pitney Bowes: Using Comprehensive Cost Information to Build Provider Networks” (published in *Benefits Quarterly*, Second Quarter, 1995). A pre-intervention analysis of physician efficiency (discussed below) was performed in 1993, and the efficient network was implemented in 1994 (grouper and methodology used: Diagnostic Clusters, published in *Medical Care*, 1995, 33(5), pp. 463-486, “Profiling Physician Practice Patterns Using Diagnostic Clusters”). A second analysis was performed and Pitney Bowes’ efficient provider network was refined in 1996 (grouper and methodology used: Episode Treatment Groups (ETGs) from Symmetry Health Systems). Impact on per capita health care spending was measured in 1994 and 1995.

The arrangement at Pitney Bowes included two distinct components. First, the company reached out to the medical community for input and participation in crafting both a clinical and business partnership that would more highly value efficiency in health care delivery in Fairfield County, Connecticut (the company’s home base of operation). Second, the company encouraged use of physicians with favorable efficiency profiles via a conventional point-of-service health plan, as well as an “exclusive” provider network health plan, which excluded coverage for out-of-network care, except in emergencies.

Plan Offerings Before and After the Experiment

In 1993 (the year before program implementation), Fairfield County employees were enrolled in three different health plans: MetLife (a PPO plan), Physician Health Services (PHS, an HMO with no out-of-network benefit), and ConnectiCare (CC, an HMO with no out-of-network benefit). Employee distribution in these plans was: 75% in MetLife; 20% in PHS; and 5% in CC.

The MetLife PPO plan was designed to direct employees to PPO providers, although the channeling incentive was not strong (approximately a 10% difference in coinsurance between in-network and out-of-network utilization). About 70% of employee expenditures were incurred through PPO providers. Similar to the experimental plans, the MetLife PPO plan had inpatient utilization review (UR) and large case management programs, and did not provide incentives for physicians to achieve utilization or cost reductions. Approximately 50% of the roughly 3,500 physicians in Fairfield County were in the MetLife PPO network. Physicians were paid on a discounted fee-for-service (FFS) basis, and hospitals were paid on a per diem basis. The reimbursement method and negotiated fees were judged by Pitney Bowes to be similar in the experimental plans.

The new health plan program became effective January 1, 1994. Pitney Bowes offered two plans, both administered by PHS: PHS point-of-service (POS) plan, and PHS exclusive provider organization (EPO) plan. Pitney Bowes discontinued the MetLife PPO plan, the PHS HMO, and the CC HMO.

The POS plan had a \$10 office visit copay, 80%/20% out-of-network coinsurance, and no gatekeeper mechanism. The EPO had a \$10 copay, no out-of-network benefit, and no gatekeeper mechanism. After the 1994 open enrollment, the distribution of Fairfield County employees was: 55% PHS-administered POS, and 45% PHS-administered EPO.

This constituted about two-thirds of the physicians in the MetLife PPO in which most Pitney Bowes enrollees had participated in the prior year. Like MetLife, PHS sought to contract with physicians providing cost-effective care; but PHS had not selected their 40% smaller HMO network of 1,000 physicians based on profiling their comparative efficiency. Most of the PHS physicians also participated in MetLife's 1,750 physician PPO network.

Pre-Experiment Physician Efficiency Study

In 1993, a study was performed to compare total health care costs per episode of illness for the 1,750 physicians in MetLife's PPO plan versus the 1,000 physicians in PHS's HMO. The top 20 specialty types were evaluated, including primary care physicians (general/family practitioners, general internists), pediatricians, OB/GYNs, general surgeons, and orthopedists.

The study included two populations of Fairfield County Pitney Bowes' employees (and their dependents). Both populations had complete individual claimant level ambulatory, outpatient, inpatient, and prescription drug data for the two-year period January 1, 1991 through December 31, 1992.

The first population consisted of Pitney Bowes employees and their dependents enrolled in the MetLife PPO. Approximately 75% of employees and dependents were enrolled in the MetLife PPO at the time of the study.

The second population comprised all members enrolled in PHS's HMO, not just Pitney Bowes employees (see 1995 Benefits Quarterly article for more information on plan design and physician reimbursement mechanisms).

Methodology and Pre-Experiment Study Findings

Details of the Diagnostic Cluster methodology are provided in the 1995 Benefits Quarterly article. For primary care physicians (PCPs), results of the analysis showed that PHS had succeeded in selecting more efficient physicians into their pre-existing HMO network. When compared on similar episodes-of-illness, average longitudinal episodes-of-care charges were 34% lower ($P < 0.01$) for the PHS HMO PCPs as compared to the MetLife PPO PCPs. For specialists, results showed that average episode-of-care charges were 25% lower ($P < 0.01$) for the PHS HMO specialists as compared to the MetLife PPO specialists. The efficiency study also identified the most efficient PHS physicians by specialty type. Pitney Bowes concluded that PHS physicians delivered care more efficiently than physicians providing care via the MetLife PPO plan.

Physician Composition of PHS POS and EPO Networks in the Experiment

PHS decided to move all employees to two variants of the PHS HMO physician network. To achieve this, Pitney Bowes offered two health plans, both administered by PHS:

- *PHS POS plan.* All 1,000 physicians under contract with PHS HMO remained in the experimental PHS POS network. No PCPs or specialists were eliminated. Under this plan, about 1,000 physicians provided care to POS-enrolled Fairfield County employees (and their dependents). The POS plan had a \$10 copay, 80%/20% out-of-network coinsurance, and no gatekeeper mechanism.
- *PHS EPO plan.* This network was a subset of the PHS HMO plan. *The 100 least efficient PHS HMO physicians (i.e., who used significantly more resources to treat the same episodes) were not included in the EPO network.* This exclusion encompassed physicians from almost every specialty type. No additional physicians were added to the PHS EPO network. Thus, approximately 900 physicians provided care to EPO-enrolled Fairfield County employees (and their dependents). The EPO plan had a \$10 copay, no out-of-network benefit, and no gatekeeper mechanism.

Monthly employee premium contributions were reduced for employees that enrolled in the EPO plan. Consequently, there was substantial enrollment in EPO plan in 1994, the first year of the experiment: about 45% of all Fairfield County employees. The remaining 55% enrolled in the PHS POS plan.

Representatives of Pitney Bowes reviewed the entire panel of EPO physicians with the medical director of PHS. The PHS medical director and Pitney Bowes representatives found a high concordance with anecdotal evidence of practice pattern efficiency and equal representation of physicians with favorable local reputations for high quality of care.

Savings from the Experiment:

The Combined Impact of Plan Design Changes and More Efficient Physicians

The program became effective on January 1, 1994. In the first year of implementation (1994), the company's per capita health care cost fell 9.3% compared to a 10% concurrent increase in premium trend in Connecticut, generating a savings estimate of 19.3%. Additional health plan administrative charges were negligible.

- In the pre-implementation year (1993), per employee costs were calculated by adding together the PHS and ConnectiCare HMO total premium costs and the self-insured MetLife indemnity plan costs. The MetLife administrative services charges were included. This total was divided by the total number of employees electing coverage in one of the three offered health plans.

- In the post-implementation year (1994), per employee costs were calculated by adding together the PHS POS and EPO costs (no fixed premiums were charged by PHS). The PHS administration services charges were included. This total was divided by the number of employees selecting POS and EPO plan coverage.

In year two of the experiment, Pitney Bowes's per capita health care costs rose at a rate that was 5% less than concurrent health insurance trend in Connecticut for a two-year cumulative savings of 24.3%. The current Medical Director at Pitney Bowes, Dr. Jack Mahoney, estimates that less than 30% of the 24.3% savings was attributable to greater enrollee point-of-service cost sharing due to the experiment's plan designs. Pitney Bowes judged potential savings from premium taxes, from elimination of favorable selection by the two insured HMOs offered in 1993, and year-to-year shifts in the total population's health status to be negligible. Dr. Mahoney felt savings could have been significantly greater with greater steerage to the EPO network via lower employee premium contributions.

The results suggest that a highly this well-implemented program to direct individuals to efficient providers generated savings equal to 17% (70% of the two-year cumulative 24.3% per capita spending reduction).

Postscript

Physician Health Services (PHS) was sold in 1996, the third year of program implementation. The new owner was unwilling to continue the contract, and the program was discontinued. Nonetheless, third year per capita costs remained lower than the community experience, indicating a carryover effect from linking the Pitney Bowes population to more efficient physicians. By year four, Pitney Bowes healthcare costs began re-approaching the community average.

The current Medical Director at Pitney Bowes, Dr. Jack Mahoney, who closely evaluated the experiment, believes that its results can be more widely generalized. He identified three success factors: First, there was a significant oversupply of physicians in every specialty. Second, the physicians were not organized into strong negotiating blocks. Third, physicians had no efficiency data with which to validate the Pitney Bowes ratings.

While physicians are more organized and have access to more data now in Fairfield County (and in many other places), Dr. Mahoney feels there is also greater physician acceptance of more sophisticated contracting strategies to constrain costs. He predicts that similar narrowing of networks via efficiency profiling could also be applied to hospitals where there is an oversupply of beds. Finally, he points out that there are now better quality of care measures, which can supplement network quality credentialing to assure consumers that quality of care is not being sacrificed by more efficient physicians.

Some employers have failed in efforts to encourage enrollees to select narrower network plans. Pitney Bowes succeeded by: (1) preserving enrollee choice via assuring a POS option; creating a significant incentive via consumer out-of-pocket cost for selecting an in-network POS provider; creating a significant incentive via consumer premium contribution levels to select the EPO plan

rather than the POS plan; and assuring that both plans were rooted in more efficient physicians, rather than in physicians selected for their acceptance of a discounted fee schedule and utilization management.

Many physician groups and managed care organizations have profiled the comparative allocative efficiency of individual physicians. Fewer have profiled their quality. However, almost none have shared ratings with consumers or rewarded consumer choice of more highly rated physicians within their group or network. While there are many valid concerns associated with making comparative provider quality and efficiency available to consumers* and a basis for creating incentives for higher value consumer selections, most can be solved or attenuated. In an industry in which individual physicians control the vast majority of national expenditures, efficient spending will require strong market reinforcement of physicians and multi-physician organized systems of care delivering superior customer value. Pitney-Bowes and other pioneering purchasers and health plans have shown it to be feasible and effective. It will be up to those that follow to integrate quality ratings, and to improve data feeds and analytic methods. These advances will enable improved customer value and greater market rewards for higher value providers.

* The challenges of validly comparing individual physician performance have been well articulated in publications by Greenfield, Hofer and others. Other authors have correctly pointed to the eventual importance of multi-physician systems of care in rating the quality and economic efficiency of health care.